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**ANATOMY OF PUBLIC-PRIVATE PARTNERSHIPS:
THEIR CREATION, FINANCING, AND RENEGOTIATIONS**

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Anatomy of Public–Private Partnerships: Their creation, financing, and renegotiations

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ABSTRACT

This paper presents the main reasons why public-private partnerships (PPPs) are adopted as well as the possible disadvantages for the public and private sectors. By means of two case studies on bridge construction and railway infrastructure (Fertagus and Lusoponte), we elucidate how a PPP is structured and financed. Furthermore, the two case studies illustrate how the renegotiation processes are conducted when the public-private contracts have to be altered and what determines (un)successful renegotiations.

Keywords: Public–Private Partnerships; Concessions; Renegotiations; Public Procurement; Project Risk.

JEL codes: G32, H54, L91

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Anatomy of Public–Private Partnerships: Their creation, financing and renegotiations

1. Introduction

In public-private partnerships (PPPs), the private sector plays a role in developing and maintaining public infrastructure and services, which is usually a public sector responsibility. PPPs are a recent phenomenon and were first experimented with approximately 20 years ago. As the design, construction, operation, financing, ownership and risk transfer of PPPs are country-specific, it is difficult to establish a clear definition of PPPs (Duffield, 2010).³ In some European countries, such as the UK, Portugal, Greece, Hungary, Cyprus, Spain, Ireland (EIB, 2009)), but also in the US, Canada, Australia, New Zealand and South Africa, private sector participation in infrastructure and public services through the use of PPPs has become increasingly popular (Hodge & Greve, 2009).

This paper offers a systematic and integrated approach to the main concepts, definitions, models, characteristics, structure and financing of PPPs. We analyse why basic infrastructure and public services must be guaranteed by governments and how the private sector has been instrumental in establishing such infrastructure and services. Furthermore, we also concentrate on how PPP renegotiations are conducted. To detail typical PPP structures and financing models, we use two case studies on completely different projects: Fertagus and Lusoponte. We answer the following questions: (1) How are PPPs established? (2) How does the private sector structure and finance a PPP relative to a private set-up following a traditional procurement? (3) Why and how are PPPs renegotiated?

This paper contributes to the literature by addressing both the advantages and disadvantages of PPPs. For example, the main advantage of a PPP—the fact that PPPs are ‘off-balance sheet’—comes with several disadvantages: the budget ‘temptation’ and future liabilities. We show that the structure, financing, and life cycle of a PPP are significantly different from those of a traditional, privately owned project. For

³ For various definitions, see, e.g., Treasury, 1998; Linder, 1999; Savas, 2000; Klijn, 2000; Kirk & Wall, 2001; CCPPP, 2001; EC, 2003; Hardcastle, 2003; Bovaird, 2004; Corner, 2006; OECD, 2008 Hodge & Greve, 2009.

example, there are differences in portfolio management, asset ownership, project duration, amount of debt and risk, dividend policy, and shareholder structure. Although most renegotiation studies focus on the determinants that lead, in macro terms, to successful renegotiations, there is a lack of research on the negotiation process, which can be induced by financial distress, increased bankruptcy risks, and a changing political agenda.

This paper is organised as follows. Section 2 reviews the fundamental concepts of PPP. Section 3 lays out the structure and financing of PPPs. Section 4 reviews renegotiation theory. Section 5 presents the two case studies and the data used, and Section 6 discusses the renegotiation dynamics of Lusoponte and Fertagus. Conclusions are provided in Section 7.

2. Main concepts of PPPs

Traditionally, the public sector is responsible for providing specific services such as defence, security, justice, education, health and culture, and for building basic infrastructure such as roads or prisons (Savas, 2000). The reasons why these types of services or infrastructure are not provided by the private sector are described in economic literature as ‘market failures’ (Chong, Huet, Saussier, & Steiner, 2006b; Stiglitz, 1989). The private sector is not eager to deliver these types of goods and services because they are not profitable. However, for social or political reasons, they must be made available to society. Therefore, it becomes the public sector’s responsibility to ensure universal access to these goods and services. Another reason for the public sector’s provision of the above mentioned services and infrastructure is that they may be ‘natural’ monopolies, requiring some source of public intervention (Grimsey & Lewis, 2002b). In addition, some of these services or types of infrastructure generate positive externalities (the classic example is the construction of a new road that reduces travel time and accidents). Another example is the provision of health services that will lead to a healthier population, with a positive impact on reducing absenteeism and augmenting productivity and economic growth (Sachs, 2005). Infrastructure comprises various types of fixed investments that are characterised by a long duration in construction and operation, as well as indivisibility, capital intensity, and a complex valuation process (Grimsey & Lewis,

2002a). This type of infrastructure usually requires a high initial investment, and it is only financially viable over the long run, which may extend beyond the scope of the private sector (Delmon, 2009). Although the public sector is responsible for guaranteeing specific services and infrastructure, its role has changed in recent decades; the public sector remains the guarantor but is in some cases no longer the provider. In fact, the private sector plays an increasingly important role in providing in some countries' services and infrastructure that have traditionally been the public sector's responsibility (Grimsey & Lewis, 2004).

2.1. PPP definitions and different models

To mark the boundaries of a PPP's role and scope, let us first discuss the various stages of the project: (1) conception, (2) design, (3) construction, (4) financing, (5) operations and maintenance (O&M), and (6) residual value or transfer of the infrastructure from the private sector to government at the end of the contract. In traditional procurement, the government is responsible for all of these stages. When construction is contracted to a private firm, the final responsibility lies with the public sector, which stands in contrast to privatizations where the asset or service is completely transferred to the private partner along with all risks and rewards (Savas, 2000; Demirag & Khadaroo, 2008).

The difference between PPPs and traditional procurement or privatisation is that the responsibilities over the several stages of a PPP project are divided between the public and private sectors. De facto, in a PPP, the public sector purchases a service under specific terms and conditions (Grimsey & Lewis, 2002b).

Figure 1 shows the different government procurement models. In traditional procurement, the government is responsible for all stages of the process, i.e., for project, risk, costs, budget treatment, financing, contract and ownership, whereas in a privatisation, the private sector takes on all of these responsibilities. In PPPs, some stages of the project are public responsibilities, whereas others are private. Consequently, risks are allocated between public and private sectors. For example, construction, financing and O&M usually falls under the private sector, whereas political risks, administrative licenses and other risks, e.g., unilateral changes, remain

with the public sector. Table 1 summarises the public and private responsibilities for each model.

(Insert Figure 1 and Table 1 here)

2.2. Aspects of PPP contracts falling under the responsibility of the public sector

The specific issues faced by PPP regarding the public sector are summarised in Table 2, and the rest of this section provides a close look at some of these issues.

In PPPs, the private sector assumes all costs during the investment stage, enabling the government to avoid the investment's impacts on the budget and national debt. Only future payments will affect public expenditures. In contrast, capital and operational expenditures are public expenses in traditional procurement, which may create a direct budget deficit and immediately pile up more public debt. Figure 2 describes the financial outflows for the government under these two scenarios.

When building infrastructure by means of traditional procurement, there is a high level of cash outflow during the investment stage and usually low levels of O&M. However, major repairs could occasionally be necessary, leading to an increase in operating costs. In PPPs, there are no cash outflows during the investment stage, and payments are made to the private consortium during the operational stage only. Those payments cover the investment, O&M, debt service and corporate taxes and provide shareholders a return. The shapes that these payments can take are shown in Figure 2.

Insert Table 2 and Figure 2 here

The public budget finances traditional procurement, i.e., by taxes and debt, whereas in a PPP, investment is made by means of equity and debt as financing is commonly a private sector responsibility. The main differences between project financing and traditional corporate financing are discussed below (in section 3.2).

In traditional procurement, the government and the construction firm set up a construction contract for building an infrastructure. In a privatisation, a selling contract is negotiated from the public to private sector. However, in PPPs, a concession contract is agreed upon between the public and private sector. This contractual framework combines construction, financing and operation (Hart, 2003)

and is limited in time (usually long term—30 or more years). Although the contract does not cover or predict all conditions or future events, the concession contract is complex and covers a wide range of issues such as conditions of the design, construction, financing, O&M, public and users' payments, and the residual value or the final transfer of the asset to the public sector. In addition, the PPP comprises a series of detailed contracts with third parties: a construction contract with the construction company, a financing contract with syndicated banks, outsourcing contracts for O&M, insurance contracts to cover risks and a shareholder's agreement that defines the long-term relations with the PPP owners. Although the public sector is not formally present in these contracts, it is critical to the PPPs' success, and governments should therefore still carefully monitor.

The ownership of the asset also differs among procurement, privatisation and PPP. As a privatisation is de facto a selling contract, the ownership of the asset is completely transferred to the private sector. In traditional procurement, in contrast, the assets remain in the hands of the public sector. In PPPs, the physical asset also remains public, even over the duration of the concession contract, and the PPP private company usually recognises the concession contract in the balance sheet as an intangible asset during the concession period. Afterwards, the assets revert to the public sector, usually with a residual value of zero.

2.3. PPP advantages and disadvantages

What advantages does the government see in PPPs relative to traditional procurement? Why are academic studies sceptical about PPPs as an alternative use of public funds? The advantage ascribed to PPPs that is most frequently advanced is the 'off-balance sheet' accounting of this transaction (Grimsey & Lewis, 2005). PPPs have no impact on public expenditure and therefore no impact on the public debt during the investment stage; only the future payments from government to the PPP will be accounted for in the public budget. This advantage embeds a potential danger, namely the temptation to avoid budget constraints, which may lead to a debt overhang. We use this term to refer to the condition of an organisation (either government or a company) under which the debt level is so high that the organisation is no longer able to attract more debt, even if the debt conditions are favourable to new investments

(Cordella, Ricci, & Ruiz-Arranz, 2005). Some countries have established many projects over a short period of time, raising concerns about their affordability (Grimsey & Lewis, 2002a; Froud, 2003). Future payments can threaten the sustainability of public finances in some cases, as liabilities may only arise when payments are due (Maskin & Tirole, 2008). As such, the impact of PPPs on governments' future budgets is also an issue of concern (Guasch, Laffont, & Straub, 2007).

The second advantage of PPPs is the possibility of building an infrastructure that otherwise would not be built because of budget restrictions (Debande, 2002; Grout, 2005). In several countries, PPPs have been instrumental in reducing infrastructure gaps. However, as budget constraints are less binding, concerns about rational decision making have emerged. The PPP approach may induce governments to be less careful in their choice of projects. Heald & Georgiou (2011) show that in some cases, assets are chosen with little (or even no) economic or social rationality, which is attributed to the fact that governments tend to not separate the investment decision from the financial decision.

Third, PPPs aim at generating Value for Money (VfM), the idea being that the same quantity and quality of services can be provided at a lower overall cost. The goal of PPPs is to achieve microeconomic efficiency of public money in terms of a better use of those resources because of better management (OECD, 2008). However, VfM is complex to measure and has led to an intensive debate on whether PPPs really do generate VfM (Broadbent, Gill, & Laughlin, 2008; Grimsey, 2007). A pitfall in VfM valuation is that the concept is mainly based on risk transfer (Ball, Heafey, & King, 2007). Academics provide the following reasons for why PPPs do not deliver sufficient VfM: (i) the private sector assumes few risks and thus has few incentives to pursue better management and efficiency; (ii) risk is an ambiguous and complex concept, leading to valuation uncertainty; (iii) the methods used to value risks are considered incomplete, as the public sector usually adopts simple valuation tools, often based on a qualitative approach; (iv) the public sector comparator favours PPPs because of an 'optimism bias' or the use of excessively low discount rates; and (v) PPPs often only show VfM after a risk transfer.

Fourth, the private sector assumes some of the risks of a PPP project, which is considered yet another advantage compared to traditional procurement. Nevertheless,

Ng and Loosemore (2007) and Broadbent et al. (2008) note that the valuation of risk transfers is not straightforward and hinges on some subjectivity (Shaoul, 2005; Ball et al., 2007). Pollitt (2002) and Klijn (2003) argue that this situation is aggravated by the public sector's lack of experience.

Fifth, the public sector can focus more on strategy and less on operational tasks when it initiates a PPP (Bovaird, 2004). Still, PPP contracts are long-term (usually more than 20 years), and government policies are not necessarily consistent over time following changes in government, making strategic planning even more difficult and unpredictable (Heald, 2003).

Sixth, a PPP represents simplicity as it leads to just one contract between the public and one private company, whereas traditional procurement brings about a multitude of contracts. Nevertheless, despite the PPP contract's complexity, it is unavoidably still incomplete (Blanc-Brude, Goldsmith, & Valila, 2006), which can and frequently does lead to future renegotiations (Guasch et al., 2007). Furthermore, a single contract also induces asymmetric information because it allows the private sector to have more information than the public sector; in addition, there is no competitive environment once the contract is signed. This situation could lead to 'opportunistic behaviour' on the part of the private sector (Guasch, 2003; Chong et al., 2006b; Parker & Hartley, 2003), which occurs when a contracting party strategically uses the contract's imperfections to obtain a higher proportion of the value generated by the contract at the expense of its contracting partner (Chong, Huet, & Saussier, 2006a). For instance, Ho & Liu (2004) claim that in cases in which the private sector can easily obtain a renegotiation, the private sector would be able to opportunistically behave with respect to contract obligations. These conditions may result in the public sector choosing an inferior option (adverse selection) or moral hazard from the private sector (accept a lower price at the bidding stage, with the goal to later, without competition, renegotiate, leading to extra costs to users and/or taxpayers). The advantages and disadvantages are summarised in Table 3.

Insert Table 3 here

3. PPP structure and finance

3.1. PPP structure

For each PPP project, a Special Purpose Vehicle (SPV) is created. The SPV represents a legal individual company that, however, only operates and owns one specific project/concession during the contract period. It is this company that will sign the PPP contract with the government. This company will be responsible for all stages of the project when they fall under the private sector (for instance, this comprises the phases of the design, construction, financing, operation and maintenance). The reason why an SPV is created is that a project finance scheme is used (see the next subsection) (Yescombe, 2011). Thus, several relevant issues are addressed: (i) the lenders can evaluate the (fluctuations of the) cash flows that cannot be diverted to other businesses. This evaluation increases the lenders' confidence that the project will be able to repay debts. (ii) There is no recourse to the shareholders, protecting them with limited liability and non-resource (sometimes limited) financing. (iii) The project will not be affected by problems caused by other business operations, which could occur if an existing company were used to develop the project rather than an SPV.

SPV funding is derived from shareholders, banks and bond markets. Financial advisers, lawyers and other types of consultants are involved in the SPV, especially in the planning stage and at the public bidding (Nevitt & Fabozzi, 2000). During the construction stage, the construction sub-contractors are responsible for building the infrastructure. In this manner, the SPV passes the construction risks on to third parties. At the operational stage, important relationships with outsourcing and insurance companies are established. Again, the SPV's goal is to pass the operational and maintenance risks to third parties.

Using Lusoponte as an example, we present a typical SPV structure (Figure 3). Lusoponte's SPV has attracted debt from banks and equity from sponsors. The construction of the new bridge was contracted to another company, Novaponte, which is owned by the same shareholders of Lusoponte. Operating and maintenance (O&M) was also contracted to another company, Gestiponte, owned by the same shareholders. Thus, construction and O&M risks were transferred to third parties. These risks will no longer affect Lusoponte's future cash flows, reducing the lenders' uncertainty about the SPV's ability to repay the debt.

Insert Figure 3 here

The PPP framework is described in Figure 4. Although the public sector is often described as a single entity, there are in fact several independent parties, such as the government that issues the contract, the national audit office (NAO) that controls the use of public money, and a PPP-dedicated unit (e.g., at the ministerial level) that monitors the concession.

The public stakeholder is the government that signs the concession contract with the private sector. As PPPs are usually created in regulated and low-competition markets (such as transport, health or education), the regulatory agencies of that specific sector usually play an important role, which is especially true during the operational stage, when the task of the public sector is to monitor the private sector. This monitoring requirement does not only arise from the contract, as regulated markets necessitate supervision, regardless of the contractual responsibilities of the public and private sectors.

Because PPPs involve public money, other important entities in the public sector will be involved at a later stage, including organisations such as the NAO⁴, or as it is called in some countries, the Court of Audits. An NAO is an independent body that scrutinises government actions and decisions. Although it is part of the public sector, the NAO is independent of the executive power. They also tend to sanction poor decisions or at least provide recommendations for the better use of public money.

Another important public entity present in most countries is a PPP-dedicated unit. This unit is defined as ‘any organisation set up with full or partial aid of the government to ensure that the necessary capacity to create, support, and evaluate multiple PPP agreements exists’ (OECD, 2010, pg. 11). Therefore, a PPP unit is a government department that oversees the complete life cycle of the PPP (Farrugia, 2008). Both of these studies emphasise the importance of PPP-dedicated units for the ultimate success of PPPs.

Insert Figure 4 here

3.2. PPP finance

⁴ National Audit Office

PPPs are financed by the private sector using a scheme called project finance. This refers to ‘a non-resource or limited resource financing structure in which debt, equity, and credit are enhanced for the construction and operation of a particular facility in a capital-intensive industry’ (Fight, 2005). Typically, PPPs (especially with respect to infrastructures such as highways) require high capital investment and low O&M costs. Revenues mainly serve to cover depreciation and debt service and, to a lesser degree, to yield shareholder return. The high capital investment phase (during the construction phase, normally the first 4–5 years of the contract) is mainly financed through debt. Esty (2004) reports project finance to have debt levels of 70%–90%, with equity covering the remaining part. For the United Kingdom, the debt levels amount to 80%–90% (Spackman, 2002), whereas for the Portuguese highway sector, the reported debt amounts to a similar percentage of investment (Sarmiento, 2010). Debt is often called ‘non-resource debt’, which indicates that lenders rely solely on future cash flows for debt service (repayment of principal plus interest).

PPP debt consists of senior and mezzanine (also called junior or subordinated) debt. During a construction stage of 4 or 5 years, milestone payments are to be made to the construction company (Yescombe, 2002), indicating that the same level of financing is not necessary at any moment in time; project finance follows a drawdown in financing (Figure 5). The SPV first uses the mezzanine debt as a resource, followed by equity, and finally senior debt. In the operational stage, the reimbursement of debt and equity follows a different path (Figure 6). The SPV first pays back the senior debt (which has a priority right on the cash flows), then mezzanine debt and only subsequently the shareholders’ equity. Usually, the debt maturity is shorter than the project duration (Gatti, 2012).

Insert Figure 5 and Figure 6 here

In Table 4, we compare project finance to the typical financing of corporations (corporate finance). The main difference lies in the nature of the company. In project finance, the company is an SPV, which means that the company only operates one particular project such that one could state that the company is in fact the project.

In project finance, debt represents at least 70% of the investment, often more. This figure is three times greater than in traditional corporate finance (Esty, 2004). In a company, the shareholders ultimately own the assets, and debt is usually guaranteed

by those assets, or at least in part. In project finance, debt is only guaranteed by the future project's cash, and the SPV does not own the asset, but only a concession contract for a long but limited period.

Business risk and, consequently, interest and discount rates can significantly vary across firms. Nevertheless, before the recent financial crises, this variation was very low in project finance as the interest rates used for discounting were not significantly above the risk-free rate, which reflected the low level of project risk.

A disadvantage of project finance is that transaction costs are higher than those in traditional corporate financing because the concession contracts are complex and incomplete (Esty, 2004). However, the long-term high level of investment in project finance enables more efficient financing. By transferring risks to other parties (who can manage them better), project finance promotes more efficient and transparent risk sharing and risk management. Ultimately, high leverage with a low risk premium allows for a reduced weighted average cost of capital.

Insert Table 4 here

4. Renegotiations

Many PPP contracts are renegotiated at one point in time. Renegotiations (also known as financial rebalancing or financial rescue agreements (FRAs)) are usually triggered by a specific event and affect the financial conditions of the concession (Yescombe, 2011). Renegotiations usually result from unpredicted or uncontrolled events, although some conditions triggering renegotiation are listed in the contract. It should be noted that adjusting tariffs for inflation is not considered a renegotiation. Only when substantial departures from the original contract occur and the contract is amended shall we label such a change as a renegotiation.

There are several reasons why renegotiations frequently occur in PPPs; the long-term and complex nature of such contracts and the political context make it impossible to foresee all future states of the world (Engel, Fischer, & Galetovic, 2009). There are three main events that trigger renegotiations: (i) bankruptcy of the SPV, obliging the public sector to rescue the project; (ii) failure due to incorrect contractual assumptions that affect the private partner's profitability; or (iii) a unilateral change by government that results in changes that affect the concession. Usually, a tariff increase or financial

compensation from the government to restore the profitability of the PPP is the outcome of the renegotiations.

Renegotiations initiated by governments are usually related to political decisions that affect the concession contract or the financial conditions. These political decisions can affect several stages of the concession. At the design and build phase, governments can make changes in the project (reducing or increasing investments and additional works), change environmental requirements or create new administrative delays. Other changes can occur at the operational stage, such as specific legal changes or contract changes, regarding issues such as tariffs, service requirements or payments.

Most PPP renegotiation studies relate to the South American transport, water and sanitation sectors.⁵ These studies document that the existence of a regulator, better quality of the institutional framework, GDP growth, and a low level of corruption reduce the probability of a renegotiation. In contrast, price caps on tariffs, a need for follow-up investments and new elections increase the odds that the concession contract will be altered.⁶

In sum, PPP renegotiations can be an opportunity to adjust and address new conditions and terms of a project and thus increase the projects value, on either the public or the private side.

To illustrate how renegotiations work in practice, we will analyse two case studies, but we turn first to the methodology employed. Given that academic finance research on PPPs is still in its early days, the two case studies will demonstrate the specific characteristics and idiosyncrasies of PPPs in relation to the complex process of contract renegotiation.

In the next subsection, we will answer the following questions: Why and how did Fertagus and Lusoponte renegotiate, and what were the negotiations' outcomes?

4.1 Two PPPs: Fertagus and Lusoponte

Let us commence by introducing the two firms.

Fertagus

⁵ (Guasch, 2003); (Guasch, 2004); (Guasch & Laffont, 2005); (Guasch, 2006); (Guasch & Straub, 2006); (Guasch et al., 2007); (Guasch, Laffont, & Straub, 2008) and (Guasch & Straub, 2009)

⁶ (Engel et al., 2009), (de Brux, 2010) and (De Brux, Beuve, & Saussier, 2011)

In 1997, the government decided to open a railway concession for the bridge named 'Ponte 25 de Abril' (the 25th of April Bridge) to improve the connection between the northern and southern parts of Lisbon. The concession contract with the private sector included investment in the transport material (rolling stock) and the railway service (operations and maintenance). The railway infrastructure was already available (when the bridge was built in the 1960s, it was prepared to have trains in the lower deck). The decision was to leave the infrastructure a public sector responsibility and allocate only the operations to a private company. In 1999, a contract was signed with Fertagus (one of the three bidders), a company owned by the Barraqueiro group, a private sector transport group already operating in the Lisbon metropolitan area but mainly in bus services.

The contract conditions stipulated an investment of €114 M, which was to be made only with private sector funding through a bank loan of €89 M and equity of €25 M (or 22% of the total investment). The concession had a 30-year duration, with the financial viability dependent on revenues from traffic (i.e., tolls). The contract included the traffic conditions (density) under which the private sector was allowed to renegotiate.

Lusoponte

In the early 1990s, the Lisbon urban area, south of the Tagus, was served by a single bridge⁷ to reach the city. This situation presented a major constraint on traffic, not only in the city but also between the northern and southern parts of the country. In 1992, the government decided to open a bidding process for a second bridge. This new bridge, called 'Vasco da Gama',⁸ connected the eastern part of Lisbon to the southern rim in Alcochete. Two consortiums participated in the bidding, and the 'Lusoponte' consortium won. A design, build, finance, operate and transfer model was set up in 1993 to build the new bridge (to open in 1998). There was a condition that the O&M of the older bridge (the 'Ponte 25 de Abril') would become the responsibility of Lusoponte starting on 1 January 1996. Lusoponte set up a typical PPP structure with a

⁷ It was originally (in 1968) called the 'Ponte Salazar,' and after the 1974 revolution, renamed 'Ponte 25 de Abril'.

⁸ In honour of the famous discoverer, on the 500th anniversary of the discovery of the sea route to India (1498).

consortium of eight shareholders (which during the concession period was to be reduced to five⁹).

The initial concession was financed by private and European Union funds, along with the revenues from the Ponte 25 de Abril, but without public funds. The total investment, €987 M, consisted of construction costs (€645 M) and other costs, including maintenance costs, payments to expropriate land and environmental costs. A significant amount of private debt was derived from the European Investment Bank (EIB). In 1993, before the introduction of the euro, Portugal was only able to borrow for the medium term (usually for only 3 to 5 years). A 20-year loan was only possible by borrowing from the EIB. Hence, most of the debt was derived from EIB and not from commercial banks. Ultimately, funding came from EU funds (€319 M - 32%); '25 Abril' revenues (€50 M - 5%); EIB loans (€299 M - 30%); bank loans (€120 M - 12%) and equity (€199 M - 20%), a total investment of €987 M.

The concession period was to end as soon as 2.25 billion vehicles had crossed both sides of the river (which was expected to occur between 2019 and 2022) or on March of 2028, whichever came first. To allow the project to be financially sustainable without public direct investment, three conditions were agreed upon at the time of contract: 1) The toll prices on the existing bridge ('25 de Abril') would increase at the beginning of 1994 to reach the 'Vasco da Gama bridge' toll prices by 1998; 2) After 1994, the existing exemption on toll payments during August for the '25 de Abril' bridge should end; 3) Until the end of the contract, if the government should decide to construct new bridges on the river, concession would have to be granted to Lusoponte. Thus, the absence of future competition was an important incentive to attract private funds for this project.

The fact that the first two assumptions were determined to be unrealistic at a later stage triggered renegotiations.

For each of the above mentioned PPPs, an SPV was created with long concession periods (20 years for Fertagus and 30 years for Lusoponte). Fertagus had a high level

⁹ Initial shareholder structure: Kvaerner Group (24.8%); Campenon Bernanrd SGE (22.0%); Bento Pedroso Construções (14.8%); Mota e Companhia (13.8%); Somague (13.8%); Teixeira Duarte (7.5%); H. Hagen (2.8%); Edifer (0.4%).

Actual structure: Macquarie Infrastructure (UK) Limited (31%); Vinci Construction Grands Projects (31%); Mota/Engil, S.A. (14%); Somague Itinere - Concessões de Infraestruturas, S.A. (17%); Teixeira Duarte - Engenharia e Construções, S.A. (8%)

of leverage (78%), whereas Lusoponte did not (42%, which is unusually low in project finance). The reason for the low debt level is that European Union grants (subsidies) represented 32% of the investment. The debts in both companies were ‘non-resource’ and included both senior and mezzanine debt.

4.2 The process dynamics of the Fertagus and Lusoponte renegotiations

Fertagus

The Fertagus contract comprised a band traffic system with three bands (an upper, a reference and a lower band) to share traffic risk between the government and the private company. The concession contract defined conditions in terms of the real traffic that was expected to use the railway during the operation period (see Table 5). If traffic estimations were understated and real traffic exceeded the upper band, Fertagus would face a reduction in tariffs and would be responsible for improving service. If traffic projections were too optimistic, with real traffic falling below the lower band, Fertagus could demand a financial rescue. The following was the government’s guarantee to the private sector: the ability to address the possibility of overoptimistic government traffic projections, which would trigger a renegotiation. Fertagus could then ask for an increase in the concession period, tariffs and/or financial compensation.

Insert Table 5 and Figure 7 here

Over the period 1999–2003, the actual traffic was substantially below the lower band by 40%–60% in every year (Figure 7). This allowed Fertagus to ask for a renegotiation that resulted in several changes to the concession, leading to a better and more balanced agreement between the parties. These conditions and changes were as follows: the financial compensation paid by the government to Fertagus was €24 M in 2004, €21 M in 2005, plus a total of €65 M split over the period 2005 to 2010¹⁰. The net payment for this period was approximately € 80 M. Although the private sector

¹⁰ The claw-back system allowed the public sector to receive 75% of revenues if the real traffic level rose to the estimated traffic level, which eventually did happen. The government received a total of €12 M from Fertagus, which was caused by a claw-back agreement. New traffic projections were made, and the band system was abandoned. Additionally, Fertagus paid (between 2005 and 2010) a total of € 18 M for infrastructure usage.

received a financial compensation, the concession period was reduced to 10 years (but the possibility of a 9-year extension was created). This extension would only apply if the concession became financially viable without public support, which indeed occurred in 2010. Fertagus is currently operating without any public financial support (until 2019 when the concession ends). The reasons for reducing the concession period were primarily to limit the private sector's gains but also to ensure, if the SPV were to incur further losses, that the public sector would recover the project sooner, not having to face a new renegotiation process. A second change to Fertagus' contract was that the traffic risk, which was originally shared, became Fertagus sole responsibility. Third, the financial conditions were also altered: despite the higher project risk (due to the assumption of traffic risk), the profitability was decreased (the internal rate of return [IRR] dropped from 10.9% to 7.8%). Fertagus passed on the senior debt to the public sector, along with ownership of the assets, but remained responsible for the debt service. Fourth, a claw-back mechanism was introduced, regulating the sharing of unexpected revenues between the government and the private sector. Fifth, the service conditions were also revised; users had to pay a higher tariff for services, and the number of trains was reduced.

In the end, the public sector spent almost €80 M (in current 2014 prices) between 2004 and 2010, but the concession could remain open and is now financially independent from public money. After 2010, as foreseen in the 2004 renegotiation, the concession period was extended to 2019, with no further public compensation. In fact, from 2010 onwards, the public sector continues to receive the revenues above the case-base forecast. Moreover, from 2017-2019, the public sector will be entitled to 50% of those years' net income¹¹.

Lusoponte

Initially, the Lusoponte concession was completely financed by the private sector, EU funds and the Ponte 25 de Abril bridge revenues. This financial scheme depended on the three conditions previously mentioned. The contract established that if any of these three conditions was not met, Lusoponte could demand a renegotiation of the contract and financial compensation from the government. Additional clauses that could trigger

¹¹ Fertagus forecasted to deliver to the government €1 M in 2017, €1.2 M in 2018 and €1.4 M in 2019.

renegotiations included ‘exceptional events’ in the currency market (unfavourable movement of the Escudo/Deutsche Mark exchange rate—prior to the introduction of the euro) and specific legislative changes with a direct impact on the concession. Risks to the public sector representing possible financial compensation to the PPP were limited to unilateral changes to contract, force majeure, specific legal changes and delays in EU grant payments or delays in land expropriations. The compensation could be made by using each of the following three mechanisms (or a combination thereof): (1) increase in the concession period, (2) increasing tolls or (3) direct financial compensation. If any of these events were to occur, the project could be renegotiated. Public financial compensation would have to assure minimum project financial stability. In the contract, financial stability was determined by a ‘ratio of debt coverage’¹² of 1.13 in 1998, 1.19 in 1999 and 1.25 beyond. In addition, the project minimum IRR (pre-tax) was established to be 11.43%.

In 1994, the government increased the Ponte 25 de Abril tolls, which led to a major political crisis involving street riots and a bridge blockade. To avoid future conflicts, the government decided not to increase the toll, maintain the August exemption and start a discount policy for frequent users. These changes were valid for one year and had to be renewed each year (over the period 1995–2000). As previously mentioned, the private sector investment was initially to be paid by tolls from both bridges. The fact that the ‘25 de abril’ bridge toll prices did not increase reduced the expected revenues, unbalancing the financial base case. This loss of revenue led the company to request a renegotiation, which led to the first of five financial rebalance agreements (FRAs) (see Table 6).

Insert Table 6 here

In 2001, a global agreement (referred to as FRA 6) was reached to end the succession of FRAs. The agreement had three main objectives: (i) create a price policy that differentiates the toll prices on both bridges by keeping the price on the Ponte 25 de Abril bridge lower than that on the Vasco da Gama bridge, (ii) adapt the initial financial model to the new toll conditions, and (iii) end all of the remaining

¹² The level of debt that can be raised for a project is based primarily on the projected ability to pay interest and repay loan principal instalments, with a comfortable margin of safety. To assess this margin of safety, lenders calculate cover ratios, namely the DSCR (Yescombe, 2011). The DSCR represents the ability of a project to ensure debt service. The DSCR is equal to the interest payments plus debt amortisation as a percentage of free cash flow. To reduce credit risk, senior lenders require a minimum DSCR in each project.

renegotiation requests and conflicts and adapt the concession to the new financial conditions of the Eurozone. These new conditions allowed for a refinancing of the concession and substantially lowered the cost of debt. Portugal's entrance to the Eurozone, along with the borrowing conditions in the financial markets during that period, significantly reduced the country's interest rate, making credit abundant and cheap. The private sector fully benefited from these new financial conditions of Lusoponte.

The global agreement compensated the private partner in different ways: there was (i) a direct financial compensation (a total of €306 M, divided between 2001 to 2019); (ii) an increase in the concession period, until 2030. Considering that in the initial contract the concession period was determined to last until 2.25 billion vehicles had crossed both sides of the river (which was expected to occur between 2019 and 2022), the concession period has increased 7 to 11 years beyond the initial projections. (iii) A change in the risk allocation matrix (reducing the risk to the private partner). (iv) The end of Lusoponte's responsibility for the Ponte 25 de Abril bridge's O&M (reducing the overall cost to the private sector). (v) The continuation of the concession at an 11.43% IRR pre-tax. (vi) If the corporate tax rate were to increase by more than 1 p.p., the government would have to compensate the company (see Table 7). In spite of these benefits given to Lusoponte, there was no claw-back clause that would allow the public sector to share future additional (unexpected) benefits.

Insert Table 7 here

The global agreement (FRA 6) has led to changes in the original risk allocation matrix. Three types of risks have changed: (i) Generic legislative changes (e.g., an increase in the tax rate would not affect this company as the government would provide financial compensation for an additional tax burden). (ii) The operational risk of the Ponte 25 de Abril bridge, which was originally the private sector's responsibility, became a public responsibility, as the operational costs were paid by the Ministry of Transport. (iii) The financing and demand risks, which were allocated to the private sector in the original contract, are now shared between the two parties. Overall, the private sector risk level was decreased, but despite the reduction in the risk level of the project, there was no reduction in the PPP profitability (which is very

different from that in the Fertagus case). In fact, now with less risk, Lusoponte has continued to have the same pre-tax IRR as in the initial agreement.

In 2007, Lusoponte asked for an FRA 7, following changes in corporate tax rates, a reclassification of vehicles in terms of toll payments, the introduction of tolls in the month of August and additional maintenance work necessary on the Ponte 25 de Abril bridge. As a consequence, the government directly paid Lusoponte €22 million.

These series of renegotiations over the past 15 years have significantly altered the concession characteristics. As we have described, there were changes in the risk allocation matrix, reducing the project risk. In addition, the debt conditions have improved, lowering the cost of debt to Lusoponte. However, the main change is that the project no longer solely relies on private funds. The several renegotiations resulted in a variety of types of public funding: direct financial compensation, an increase in the concession period and a reduction in the concession maintenance costs. How did this public funding change the overall funding of this investment? At the end of these renegotiations, the funding of the project had changed substantially. From an initial project without public funds (except EU subsidies), the project became mainly financed through public resources. Focusing on the initial funding (the €987 M of investment mentioned previously), we learn that the public sector financial support resulting from the renegotiations amount to half of this value.

4.3 Main findings from the case studies

Up to this point, we have discussed how Fertagus and Lusoponte renegotiate. However, what can we learn from these two cases? Table 8 summarises the main findings.

First, the events that led to renegotiations were substantially different in each case: In Fertagus, it was the fact that demand was below the case-base estimation. In Lusoponte, it was a political decision to change the contract conditions, regarding toll prices. This led to a fundamental difference: In Fertagus, renegotiation was initiated by the private company that was facing imminent bankruptcy, giving stronger bargaining power to government. In Lusoponte, renegotiations resulted from the government's decision not to increase tariffs. This unilateral change in the contract gave the private company a strong asymmetric position in the negotiations.

Insert Table 8 here

This difference was aggravated by three other factors: (i) the fact that Fertagus belongs to a group whose sole business is to operate several public transportation firms in the Lisbon region may have an impact on the private-side negotiation position. There may have been a reputational cost to the private group in the collapse of the project or in the PPP being perceived by public opinion as inefficient and a waste of public money. (ii) In Lusoponte, changes in the public administration structure concerning the monitoring and evaluation of this project took place. At the beginning of the contract, Lusoponte was supervised by a specific government department (GATTEL). With the extinction of this department, the PPP competences regarding the project were divided between the Ministries of Finance and Transport. According to several Court of Audit reports, and as emphasised in De Lemos (2004), this division has created coordination problems, which have been aggravated by changes in government and policy. (iii) Another reason why Lusoponte did so well in the renegotiations was caused by the fact that the initial contract did not account for social and political risks. The two bridges have different users. Those who use the ‘25 de Abril’ bridge do not frequently use the ‘Vasco da Gama’ bridge. Therefore, the former see the increase in toll prices as a tax to pay for a bridge that does not benefit them. In addition, the contract also did not provide a preview of the necessary mechanisms to allow the public sector to validate the company’s financial demands.

Thus, although both projects had public financial support, their renegotiations outcomes were substantially different: Fertagus’s renegotiation resulted in a more sustainable and robust concession that became financially independent as it relied only on commercial revenues (after 2010). This renegotiation resulted from two main changes in the concession: First, deleveraging of the Fertagus balance-sheet led to better financial conditions. Second, the change in the demand risk made it possible for Fertagus to be more flexible in commercial issues (especially those related to traffic, such as prices, discount policies and timetables) and focus more on operations. The public sector also benefited from the renegotiation: mechanisms for sharing upper-side revenue enabled the government to reimburse part of the public financial effort because demand has been above the new projections for traffic. In addition, the reduction in the project risk was followed by a reduction in company profitability.

This renegotiation forged a new equilibrium between the private sector's profit and the public sector's interests.

In contrast, the Lusoponte renegotiation process was quite the opposite that of Fertagus. Several issues significantly changed because of the chain of renegotiations. In the initial concession, tolls were supposed to have the same price in both bridges. Between 1995 and 2000, toll prices for the '25 de Abril' bridge were frozen; after the global agreement, it was decided that a different price system for each bridge would be maintained. After the first renegotiation, a discount policy was introduced. In the global agreement, Lusoponte was granted a tax benefit to compensate for the increase in the corporate tax rate. Moreover, although the project risk was reduced, the concession profitability did not decrease. The government also increased direct compensation, extended the concession period and reduced maintenance costs. In this renegotiation, the public sector gave in to anything requested by Lusoponte (see Table 6). This situation raises some doubts about whether the public sector was able to correctly assess the consequences of the demands from the private sector. These concerns were also expressed by the Portuguese Court of Audits. Furthermore, while real traffic during these years was above the traffic projections in the base case, whose benefits were entirely captured by the private parties, without being accounted for in the renegotiations. As a result, a substantial part of the investment (which was expected to be financed exclusively through private funds and EU subsidies) was financed through public resources.

Ultimately, the Fertagus renegotiation shows that when both parties are committed to sustain current and future relationships, they are prone to negotiate a better agreement, ensuring long-term sustainability and value for both. From 1999 to 2004 (the renegotiation year), Fertagus accounted for an accumulated loss of €32 M (a deviation of -600%) relative to the initial base case. From 2005 until 2010, the company had a total profit after taxes of €56 M (an increase of 42% compared to the renegotiated base case). Improved concession conditions, better management and higher demand were the main causes of this turnaround.

In contrast, in Lusoponte, these renegotiations ended up requiring substantial public sector financial effort, which led to significant opposition to this project and contributed to a generally negative view of PPPs in Portugal. As indicated by De

Lemos (2004), a complete risk management analysis requires an assessment based not only on technical factors but also on political and social factors.

5. Conclusion.

We sought the answers to three research questions: (i) What are the main characteristics of PPPs? (ii) How does the private sector structure and finance PPPs? (iii) Why and how are PPP contracts renegotiated?

This paper advocates an integrated approach to PPPs, both from the perspective of the public and the private sector. Concerning the first question, the main reason why PPPs stand between traditional procurement and privatisation is the different role that the private sector plays in each stage of a project. However, PPPs also differ in terms of contract, ownership, risk, financing, costs and public budget treatment. Regarding this last issue, by using a PPP, there are no costs to the public sector during the investment stage, but annual payments to the private company arise over the contract period. PPPs thus avoid budget constraints during the construction of infrastructure. Governments should carefully weigh the advantages and disadvantages of PPPs.

Regarding the second question, we document that PPPs are very different from traditional firms in terms of asset ownership, project duration, amount of debt and risk and shareholder structures. The financial engineering of PPPs (based on attracting high levels of debt solely based on the project cash flows) generates opportunities for more efficient use of capital.

The two case studies reflect, in response to the third research question, why and how both PPPs renegotiate. PPPs have specific characteristics, such as the incomplete nature of the contracts, that make them prone to renegotiate. However, renegotiations are regarded as a pitfall in PPPs. In fact, the likely outcome of most renegotiations is an increase in the costs to users and/or taxpayers. Moreover, in many cases, there is a reduction in the quality of service, along with a lack of transparency in most processes. All of these factors make renegotiations contribute to a generalised negative perception of PPPs and private sector involvement in public services. This view reduces the scope of the private sector to improve and reform the public sector, along with the private sector's ability to provide an alternative to public budget restrictions.

PPP projects must be designed to address the issues that can lead to renegotiations and to facilitate them in a balanced manner. In many cases, renegotiations are not used to improve the conditions of a project. However, renegotiations will be used to that end only if both parties are committed to creating a sustainable solution.

We observed all of these factors in both case studies. The Fertagus renegotiation was a success, allowing for a financially viable concession because both parties were committed to achieving a more robust concession. This success can be attributed to two reasons: the fact that Fertagus belonged to a group already operating in transport in the Lisbon area and the fact that renegotiation was requested by the private sector, facing eminent bankruptcy. By contrast, the Lusoponte renegotiation was a failure in which public funds were used due to political decisions instead of being used to improve public services. Regarding renegotiations, we can learn from these two case studies that governments should be extremely careful when designing a concession and a corresponding contract. Governments must anticipate on the possibility of renegotiation events. In addition, control and regulation of the contract during the long project life cycle are critical.

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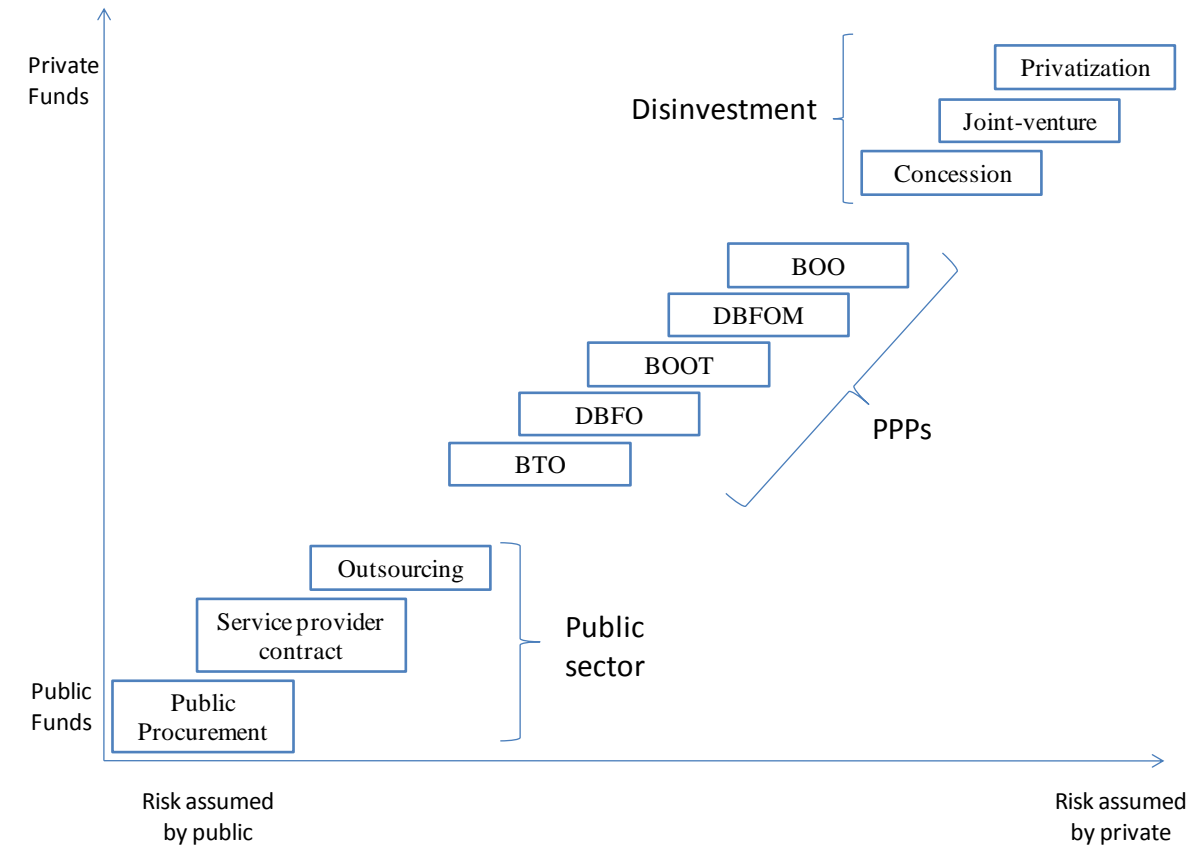
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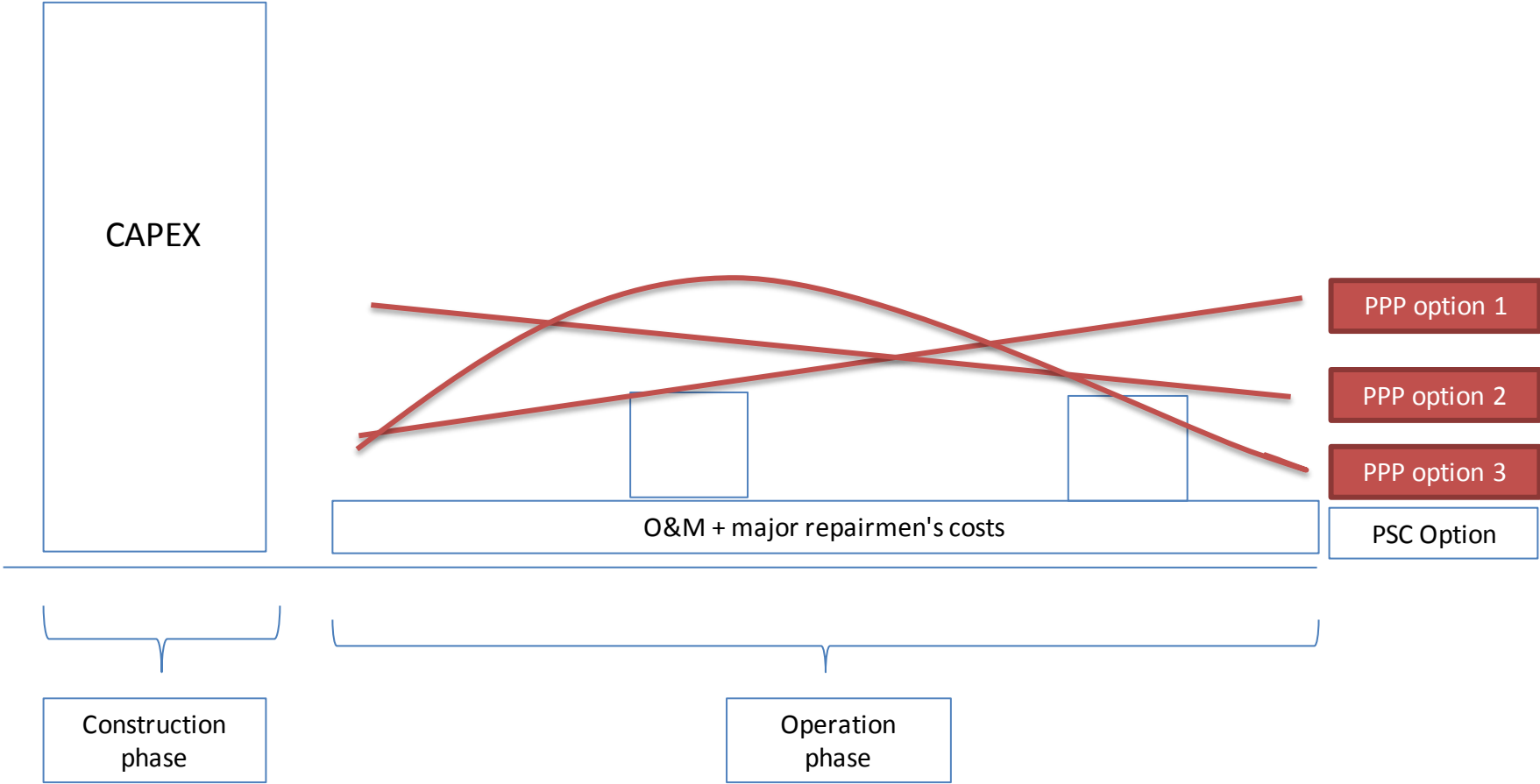
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Figure 1- Different government procurement models



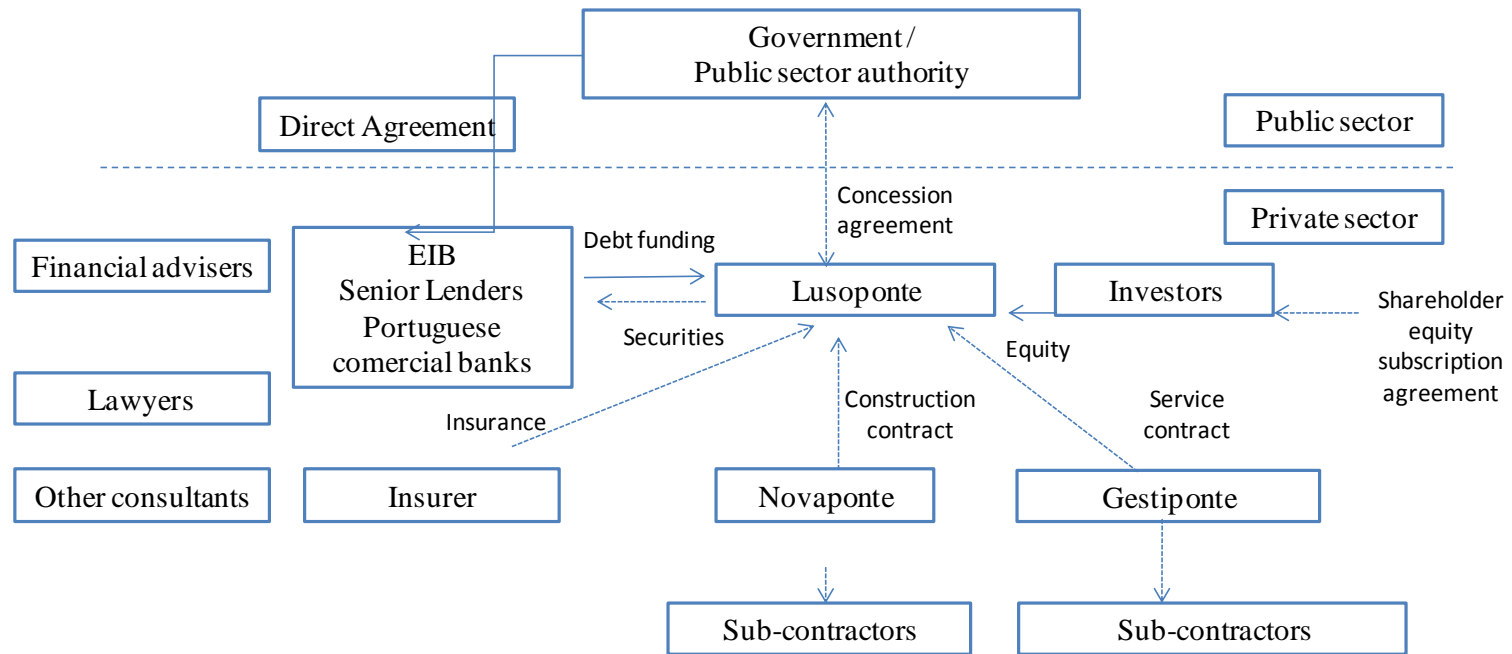
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Figure 2- Public procurement vs. PPP financial outflows in highway construction



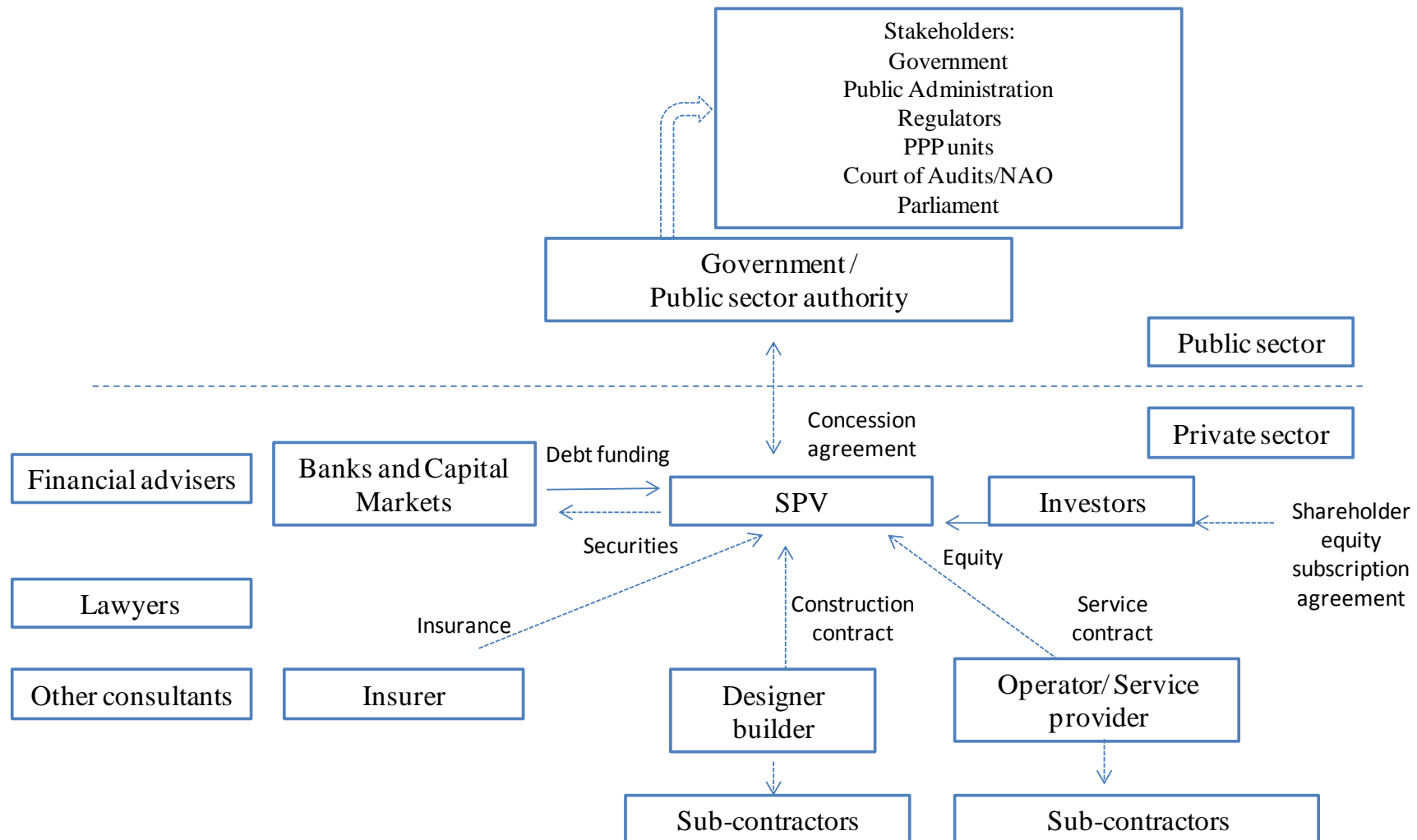
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Figure 3– Lusoponte’s PPP structure



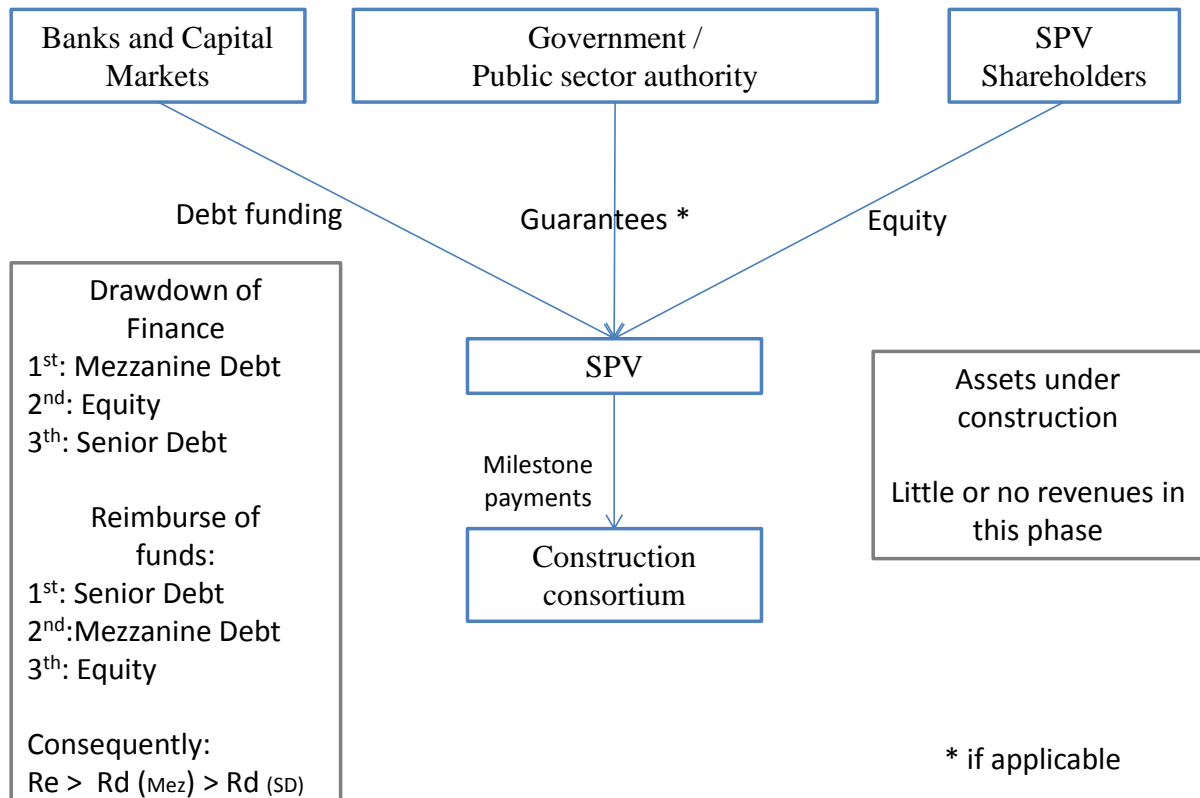
Source: based on De Lemos (2004)

Figure 4– A typical PPP structure



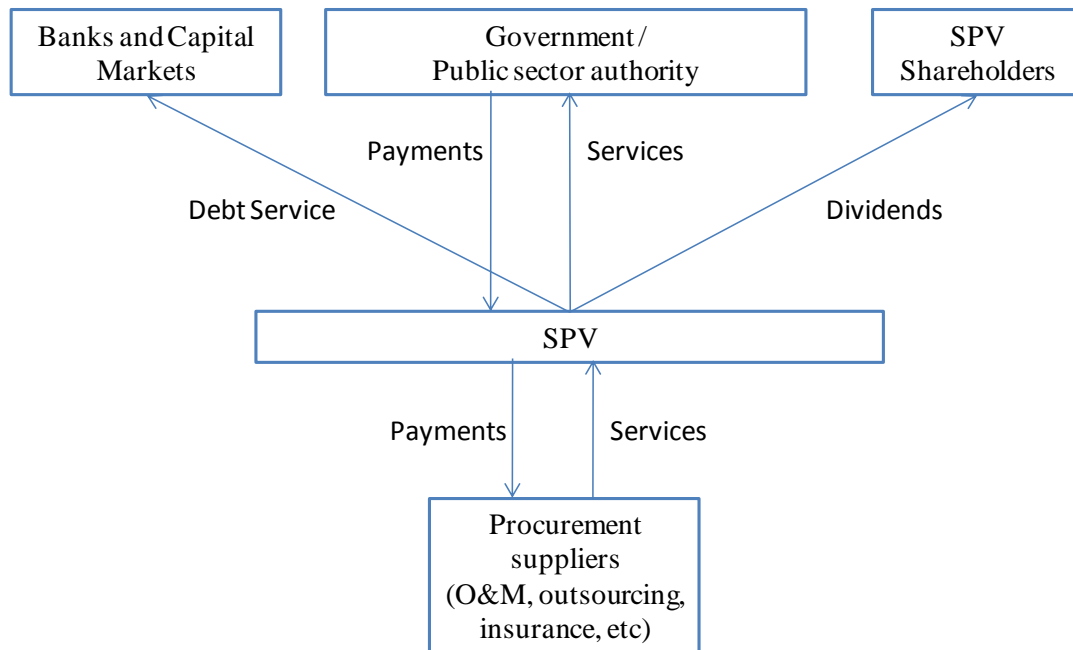
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Figure 5– PPP finance during the construction stage



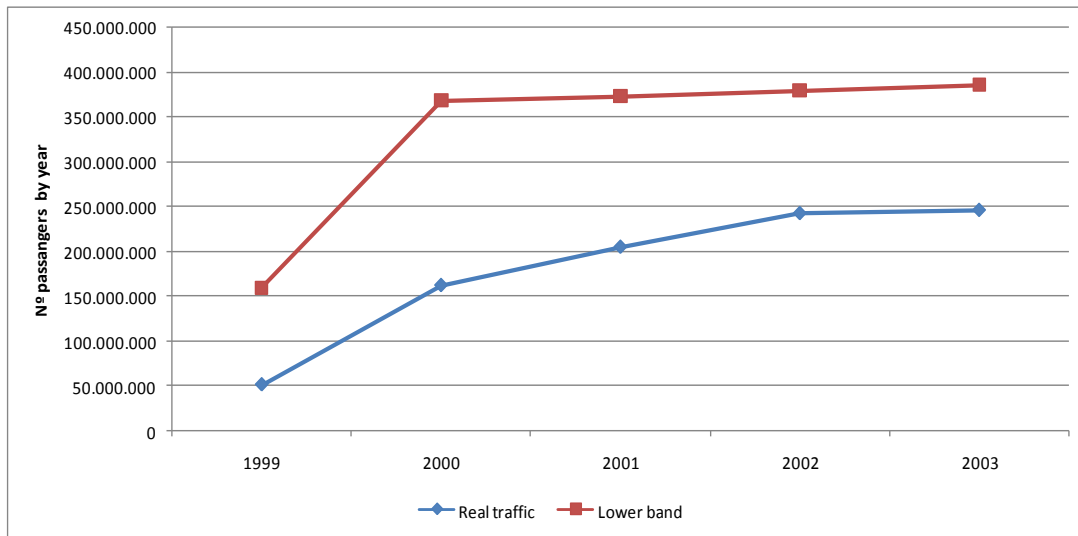
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Figure 6– PPP finance during the operational stage



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Figure 7– Lower band traffic and real traffic in Fertagus from 1999 to 2003



Source: Fertagus and Court of Audits

Table 1 – Different PPP models

This table presents the most common PPP models with the division of the responsibilities over the public/private sectors by project stage.

Model	Design	Build	Finance	Ownership	Operate	Transfer
BTO – Build, Transfer and Operate	Public	Private	Public	Public	Private	Private
DBFO – Design Build, Finance and Operate	Private	Private	Private	Public	Private	Public
BOOT – Build, Own, Operate and Transfer	Public	Private	Public	Private	Private	Private
DBFOM – Design, Build, Finance, Operate and Manage	Private	Private	Private	Public	Private	Public
BOO – Build, Own, Operate	Public	Private	Public	Private	Private	Public

Source: own table

Table 2 – The government’s perspective on traditional procurement, PPP and privatisation.

Characteristics	TRADITIONAL PROCUREMENT	PPPs	PRIVATISATION
Project responsibility	Government is responsible for all stages of the project.	Government is responsible for planning the output and outcomes of the project and usually also for payments. The other issues are the private sector’s responsibilities.	Private sector is responsible for all stages of the project.
Risk	Risk is entirely (or almost entirely) assumed by public sector.	Risk is shared between public and private sector. Private sector assumes several risks, (usually: design, construction, financing, operations and, in some cases, demand).	Risk is completely assumed by private sector
Costs	Private sector is only responsible for construction costs of the asset.	Private sector is responsible for the ‘whole life costing’ (capex and opex) of the project	Private sector is responsible for all of the project costs.
Budget treatment	Capital and operational expenditures (capex; opex) are public expenditures, affecting government budget and national debt.	No impact on budget during the investment stage (PPPs are off-balance sheet). Only payments, during operational stage, are public expenditures.	No public funds. Private sector pays a price for buying the business.
Financing	Investment is financed through the public budget (i.e., taxes or public debt)	Investment is financed by private sector, equity and debt (usually through a syndicated bank)	Investment are completely private.
Contract	There is only a construction contract between government and a private firm.	There is a concession contract, for a number of years (usually 30 y or more), specifying the conditions of design, construction, financing, operation, payments and residual value/transfer.	There is a selling contract of the asset/service to the private firm, without time limitation.
Ownership	Asset is owned by public sector.	Asset is public or reverts to public at contract end.	Asset is completely private.

Source: own table

Table 3 –PPP advantages and disadvantages from a government perspective

This table discusses the advantages and disadvantages of PPPs from a public sector perspective

PPPs advantages	Reasons for advantages	PPPs disadvantages	Reasons disadvantages
Off-balance sheet debt	Increase fiscal space in the investment years	Affordability concerns debt 'overhang'; Future payments may threaten public finance sustainability; Liabilities may not be known until payments arrive; Government guarantees represent future liabilities	Reduces fiscal space for future years; Low budget transparency
Reduce infrastructure gap	Economic and social externalities from new infrastructure; Impact on GDP and on unit costs	Temptation to build assets with no economic or social rationality.	Public funds wasted in bad projects; Cost of opportunity test
Achieve Value for Money (VfM)	Better use of public resources	VfM is complex and difficult to measure; VfM is based mainly on risk transfer	It is not clearly that PPPs are more efficient than the alternative models
Risks transfer to private sector	Risks allocated to party best able to manage them Private sector higher efficiency	Risk is complex process; Bias in PPPs' favour; Public sector lack of experience	
Public sector focus on strategy, rather than operational tasks	Enables public managers to address key issues and not disperse with non-significant problems	Lack of clear public policies and objectives; PPP planning is complex	Long term and complex contracts
A single contract with one entity	Increases transparency; Easier to manage and control	High percentage of renegotiations	Incomplete contracts lead to little flexibility and promote renegotiations; Asymmetric information reducing competition and efficiency

Table 4 – Corporate finance versus project finance

This table presents the main differences between corporate and project finance

Issue	Corporate Finance	Project Finance
Company portfolio	Usually a large portfolio of business units and, in some cases, in several countries	The Special Purpose Vehicle (SPV) only owns and operates the project.
Asset ownership	Shareholder ultimately owns the assets	Usually assets belong to governments (especially in PPPs); the SPV owns a concession contract.
Duration	No limit in time	The concession contract period is often long but limited (20-30 years).
Debt guarantees	Debt is guaranteed by the assets	'Non-resource debt'. The only guarantee is the future cash-flows of the project.
Debt priority	Bank debt is usually secured. If not, there is no debt bank prioritisation.	There is Senior and Junior debt. Cash-Flows first repay Senior, later Junior and finally equity return.
Debt balance sheet	Debt appears in company's balance sheet.	Debt is on the SPV balance sheet.
Leverage	Medium level (30%-40%) (Esty, 2004)	High level: (70%-90%), (Esty, 2004); (Blanc-Brude & Strange, 2007) (80%-90%), (Spackman, 2002); (80%-98%), (Sarmiento, 2010) In some cases, close to 100%, (Ye & Tiong, 2003)
Debt optimisation	Debt level is related to total assets and equity.	Adjust debt to the project cash-flows, optimising the level of leverage
Interest rates on debt	Level of interest rates is firm-specific.	Interest rates are usually low (spreads from 1%-2%), a little above the free-risk rate.
Business risk	Significant variation, firm-specific	Low level of risk for sponsors and lenders
Dividend policy	Decided by board of directors	Dividend policy is fixed. Dividends are almost 100% of net income. No reinvestment outside the project is allowed by the SPV
Transaction costs	Low, due to strong competition	High because of incomplete and complex contracts
Shareholders structure	Varies, can be dispersed	Limited number of shareholders

Table 5 - The traffic bands in the Fertagus concession

This table shows the predicted traffic bands in Fertagus's initial contract and the conditions of the private company for each traffic scenario.

Annual traffic	Conditions to Fertagus
Above the upper band	Improvement in the service and a review of tariffs.
Upper band	Increasing costs to Fertagus
Reference band	According to the concession conditions
Lower band	Reducing costs to Fertagus
Below the lower band	Financial rescue

Source: Fertagus

Table 6 – Synthesis of the first five Lusoponte Financial Rebalance Agreements

This table summarises the outcome of the first five renegotiations (1995 - 2000)

Request fundamentals	Value of the demand by Lusoponte	Value of the pay by government	Payment mechanism
FRA 1 – 24/03/1995			
<ul style="list-style-type: none"> No increase in tolls August exemption Increase in the project risk due to protests 	€ 90.4 M	€ 90.4 M	Direct compensation
FRA 2 – 23/09/1996			
<ul style="list-style-type: none"> No increase in tolls 	€ 4.9 M	€ 4.9 M€	Direct compensation
FRA 3 – 17/02/1997			
<ul style="list-style-type: none"> Exemption in August of 1996 and 1997 	€ 4.9 M	€ 4.9 M	Direct compensation
FRA 4 – 22/02/1999			
<ul style="list-style-type: none"> No increase in tolls Exemption in August of 1998 	€ 63.2 M	€ 4.9 M	Direct compensation
FRA 5 – 03/03/2000			
<ul style="list-style-type: none"> No increase in tolls Exemption in August of 1999 	17.9 M€	17.9 M€	Direct compensation

Source: own table, based on Court of Audits information

Table 7 – Dynamics of negotiation towards the global agreement

This table presents the initial agreement's conditions that were changed in the 2001 global agreement

Conditions	Initial agreement	2001 Global agreement
Tools	Two bridges with the same tool price	Pricing difference between the two bridges
Commercial policy	Non-existent	Frequent user discount
Tax benefits	Non-existent	Changes in the recognition of revenues, reduction in corporate income tax
Concession period	Up to 2.25 million vehicles	2030
Claw-back	Non-existent	Non-existent

Source: own table, based on Court of Audits information

Table 8 – Renegotiations

This table presents the main features in both renegotiation case studies.

Characteristics	Fertagus	Lusoponte
Event (s) that lead to renegotiation	<ul style="list-style-type: none"> ▪ Demand below initial forecast 	<ul style="list-style-type: none"> ▪ Government decisions to not increase tolls price or end august exemption in '25 Abril' bridge
Renegotiation request by	<ul style="list-style-type: none"> ▪ Private 	<ul style="list-style-type: none"> ▪ Public
Nº renegotiations	<ul style="list-style-type: none"> ▪ 1 	<ul style="list-style-type: none"> ▪ 7
Renegotiation period (s)	<ul style="list-style-type: none"> ▪ 2001-2004 	<ul style="list-style-type: none"> ▪ 1995-2000 ▪ 2001 ▪ 2007
Changes in contract	<ul style="list-style-type: none"> ▪ Deleverage of Fertagus balance-sheet ▪ Change in demand risk ▪ Claw-back mechanism 	<ul style="list-style-type: none"> ▪ From 1995 to 2000, public financial compensations ▪ In 2001 (global agreement): <ul style="list-style-type: none"> • Change in toll prices • Increase in concession period • Financial compensation • No claw-back
Did project risk change, and how?	<ul style="list-style-type: none"> ▪ Yes, reduce 	<ul style="list-style-type: none"> ▪ Yes, reduce
Did project profitability change, and how?	<ul style="list-style-type: none"> ▪ Yes, reduce 	<ul style="list-style-type: none"> ▪ No
Public sector financial support	<ul style="list-style-type: none"> ▪ € 80 M 	<ul style="list-style-type: none"> ▪ € 500 M
Renegotiation outcome	<ul style="list-style-type: none"> ▪ Concession remain open ▪ Good performance and service quality ▪ After 2010, concession became financial viable ▪ Public sector has shared the gains above the base case, after renegotiation 	<ul style="list-style-type: none"> ▪ Public funds support most of the investment ▪ Additional benefits were totally captured by private sector ▪ Doubts about the efficiency in this PPP